



U.S. Department  
of Transportation  
**Research and  
Special Programs  
Administration**

400 Seventh St., S.W.  
Washington, D.C. 20590

**APR 18 2001**

DOT-E 10878  
(NINTH REVISION)

**EXPIRATION DATE: March 31, 2003**

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Tankcon FRP Inc., Boisbriand, Quebec, Canada.  
(U.S. Agent: National Resident Agent Services,  
Incorporated, Wayne, PA)
2. PURPOSE AND LIMITATIONS:  
  
This exemption authorizes the manufacture, mark, sale and use of non-DOT specification fiberglass reinforced plastic (FRP) cargo tank motor vehicles described in paragraph 7 below for use in the transportation in commerce of certain Class 8 liquids described in paragraph 6 below. This exemption provides no relief from any Hazardous Materials Regulation (HMR) other than as specifically stated herein.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 172.102(c)(3) in that Special Provisions B15 and B23 are waived and § 173.242 in that non-DOT specification cargo tanks are not authorized, except as specified herein.
5. BASIS: This exemption is based on the application of Tankcon FRP dated January 15, 2001, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Material Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Battery fluid, acid	8	UN2796	II
Corrosive Liquids, n.o.s.	8	UN1760	I, II, & III
Fluoroboric acid	8	UN1775	II
Fluorosilicic acid	8	UN1778	II
Hydrobromic acid, with more than 49 percent hydrobromic acid	8	UN1788	II
Hydrobromic acid, with not more than 49 percent hydrobromic acid	8	UN1788	II
Hydrochloric acid	8	UN1789	II
Hydrochloric acid and Sulfuric acid mixtures	8	UN1786	I
Hydrofluoric acid, with not more than 60 percent strength	8	UN1790	II
Hypochlorite solutions	8	UN1791	II
Potassium hydroxide, solution	8	UN1814	II
Sodium hydroxide solution	8	UN1824	II
Sulfuric acid with not more than 51% acid	8	UN2796	II
Titanium sulfate solution	8	NA1760	II
Other Class 8 materials authorized to be transported in a DOT Specification 412 cargo tank motor vehicle that are compatible with the material of construction of the cargo tank.	8	As Appro- priate	As Appro- priate

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7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packagings prescribed are non-DOT specification fiberglass reinforced plastic (FRP) cargo tanks constructed as follows:

(i) A vessel having a nominal capacity of 4500 Imperial gallons (5404 US gallons), circumferentially reinforced by means of balsa sandwich construction, having an inside diameter of 60 inches and a design pressure of 40 psig with a safety factor of seven. The tanks must be constructed in accordance with TANKCON FRP Inc. drawing B-D1 dated November 9, 1977, and technical data supplied by TANKCON FRP Inc. dated November 30, 1992, February 19, 1993 and July 14, 1993, which are on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA).

(ii) A vessel having a nominal capacity of 6800 Imperial gallons (8166 US gallons), circumferentially reinforced by means of balsa sandwich construction, having an inside diameter of 72 inches and a design pressure of 40 psig with a safety factor of seven. The tanks must be constructed in accordance with TANKCON FRP Inc. drawing B-D1 dated November 9, 1977, and technical data supplied by TANKCON FRP Inc. dated November 30, 1992, February 19, 1993 and July 14, 1993, which are on file with OHMEA.

(iii) A vessel having a nominal capacity of 4500 Imperial gallons (5404 US gallons), circumferentially reinforced by ring stiffeners, having an inside diameter of 60 inches and a design pressure of 35 psig with a safety factor of seven. Tanks must be constructed in accordance with TANKCON FRP Inc. drawing SR-D1 dated October 6, 1977 (except that overturn protection must be as delineated on drawing B-D1 dated November 9, 1977), and technical data supplied by TANKCON FRP Inc. dated November 30, 1992, February 19, 1993 and July 14, 1993, which are on file with OHMEA.

b. Tanks must be in conformance with § 173.242 or § 173.243, as prescribed in the Hazardous Materials Table (§ 172.101), except that Provisions B15 and B23 are waived. In addition, they must meet all performance requirements for DOT 412 specification cargo tank motor vehicles, except as follows:

§ 178.345-2 Material and material thickness.  
Does not apply.

§ 178.345-3 Structural integrity.

References to the ASME Code do not apply. The physical properties of the FRP being employed must be used in calculating design stresses, with a factor of safety of at least seven.

§ 178.345-4 Joints.

Does not apply.

§ 178.345-7 Circumferential reinforcements.

Does not apply. However, circumferential reinforcement must be at least equivalent to that specified for steel and aluminum.

§ 178.345-14 Marking.

Applies except that the DOT Specification number is replaced by the exemption number "DOT-E 10878" and requirements in subparagraphs (10), (13) and (14) are waived.

§ 178.345-15 Certification.

Manufacturer's certification documents must be appropriately modified to reflect compliance with the terms of this exemption.

§ 178.348-1 General requirements.

Except for paragraphs (ii), (iv), (v), (vi) and (vii), subsection (e) does not apply.

§ 178.348-2 Material and thickness of material.

Does not apply.

b. TESTING - The non-DOT specification cargo tanks must comply with all test requirements of § 178.345 and § 178.348 for a DOT 412 Specification cargo tank, and must meet all applicable requirements for periodic testing and inspection of Part 180 Subpart E for DOT 412 Specification cargo tank motor vehicles except that the internal and external visual

inspections, lining test, leakage test and pressure retest must be performed annually. In addition to those items required to be examined by the visual inspections contained in §180.407(d) and (e), the visual inspections must look for any cracks, delaminations, gauges, debonding at saddles and liner deterioration.

d. The compatibility of commodities and the FRP cargo tank must be based on ASTM C 581 "Standard Test Method for Chemical Resistance of Thermosetting Resins Used in Glass Fiber Reinforced Structures". Test reports must be maintained by the owner or manufacturer for as long as the cargo tanks remains in active operation.

e. Any repair to the cargo tank not affecting its structural integrity must be made in accordance with manufacturer's recommendations. Any repair to the cargo tank affecting its structural integrity must be made by the manufacturer. After repair, the tank must be hydrostatically retested at one an one-half times the design pressure. A record of the repairs made and testing performed must be maintained by the manufacturer for as long as the cargo tank remains in service.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this exemption for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this exemption.

b. A person who is not a holder of this exemption, but receives a package covered by this exemption, may reoffer it for transportation provided no modifications or changes are made to the package and it is offered for transportation in conformance with this exemption and the HMR.

c. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.

d. Each packaging manufactured under the authority of this exemption must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Exemptions and Approvals for a specific manufacturing facility.

e. A current copy of this exemption must be maintained at each facility where the package is manufactured under this exemption. It must be made available to a DOT representative upon request.

f. MARKING - Each cargo tank must be plainly marked on the right side near the front, in letters two inches high on a contrasting background, "DOT-E 10878".

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each motor vehicle used to transport packages covered by this exemption.

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, Parts 171-180.
- o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when the exemption has expired or is otherwise no longer in effect.

12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable.

(Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

Issued at Washington, D.C.



*for* Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

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(DATE)

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590.  
Attention: DHM-31.

The original of this exemption is on file at the above office. Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

Copies of exemptions may be obtained from the AAHMS, U.S. Department of Transportation, 400 7th Street, S.W., Washington, DC 20590-0001, Attention: Records Center, 202-366-5046.

PO: KFW